

Relevance Implicatures, Non-verbal Inferences and Modularity

Background. On the Gricean account, conversational implicatures are computed by engaging in linguistic pragmatic reasoning, and are viewed as situated in the language module. On Kasher's (1991) Rationality account, conversational implicatures are produced by the non-linguistic competence, which governs "aspects of intentional action in general, including linguistic activity, which is intentional in nature." Thus conversational implicatures are not viewed as situated in the language module.

The experiment. I tested between the Gricean and Rationality accounts of Relevance implicatures, which are a subclass of conversational implicatures (1). The two accounts make different predictions concerning children's performance on computing Relevance implicatures and non-linguistic inferences that are parallel in nature. On the Gricean account, to compute Relevance implicatures, the child needs to master (2).

- (2) (i) Reasoning about language;
- (ii) reasoning about situations.

To compute non-linguistic inferences, the child needs to engage in non-linguistic reasoning concerning the particulars of the situation but not linguistic reasoning concerning utterances. Thus the child needs to master:

- (3) reasoning about situations. The Gricean account predicts **H1**.

- (4) **H1: Children perform better on computing non-linguistic inferences than Relevance implicatures that are parallel in nature.**

On the Rationality account, the mastery of the same prerequisite is necessary in order to compute Relevance implicatures and parallel non-linguistic inferences:

- (5) rationality-based reasoning instrumental in making inferences. The Rationality account predicts **H2**.

- (6) **H2: Children do not perform better on computing non-linguistic inferences than Relevance implicatures that are parallel in nature.**

Methods. I tested 28 children English-speaking children aged 5;1-8;1 on computing Relevance implicatures (7) and non-verbal inferences that are parallel in nature (8). 3 items per condition were used, and each child received only one member of the verbal / non-verbal minimal pair. For each item, children were asked a question that revealed whether they computed the implicature. 18 adult controls were tested.

Results and Discussion. I found that children did significantly worse on computing verbal implicatures ($M=1.8214$; $SD=.90487$) than non-verbal inferences ($M=2.3929$; $SD=.78595$), which supports H1 predicted by the Gricean account but not H2 predicted by the Rationality account; ANOVA pairwise comparisons: $p < .001$. Adults computed 90% of verbal and non-verbal inferences, respectively. My results provided evidence for the Gricean view of Relevance implicatures on which these meanings are part of the language module, and against the Rationality account of Relevance implicatures, on which these are not situated in the language module. While the underlying assumption behind Gricean reasoning employed in computing conversational implicatures is that interlocutors are rational agents, the steps of reasoning involved in computing an implicature are linguistic rather than purely rationality-based in that they involve reasoning about utterances and speakers.

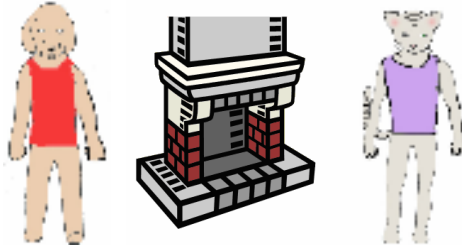
What makes computing Relevance implicatures more challenging for the child is engaging in linguistic reasoning concerning an interlocutor's reasons for employing a seemingly irrelevant utterance as a means of addressing the question-under-discussion. What makes computing non-verbal inferences less challenging is that the child need not reason about the discourse strategy of employing seemingly irrelevant utterances and assess their relevance with respect to the question-under-discussion.

(1) Relevance implicature.

- a. A: Did you start a fire in the fireplace? b. B: "I put on a coat and brought you one."
c. B's Relevance implicature: I did not start a fire.

(7) Relevance Implicature.

Cat told Dog, "Dog, now it's your turn to do something. It's chilly here. Start a fire in the fireplace, please. I'll go have something to eat in the kitchen."

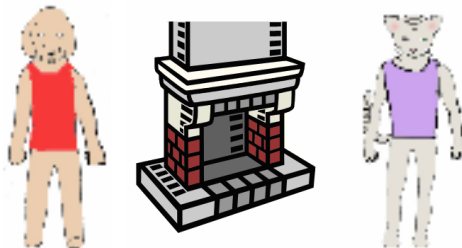


(The experimenter shows the child the picture, then removes it).

After a while, Cat returned to the living room. Dog said, "I put on a coat and brought you one."
Let's try to figure out what happened. Do you think Dog started a fire? How can you tell?

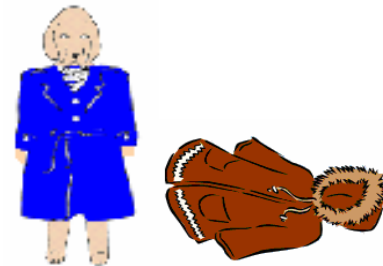
(8) Non-linguistic Inference.

Cat told Dog, "Dog, now it's your turn to do something. It's chilly here. Start a fire in the fireplace, please. I'll go have something to eat in the kitchen."



(The experimenter shows the child the picture, then removes it).

After a while, Cat returned to the living room. Let's see what happened.



Let's try to figure out what happened. Do you think Dog started a fire? How can you tell?

Selected References

- Grice, P. (1989) *Studies in the Way of Words*, Harvard University Press, Cambridge, Mass.
Kasher, A. (1998) *Pragmatics: Critical Concepts*. London: Routledge.
Kasher, A. (1991) "Pragmatics and the Modularity of Mind." In S. Davis eds., *Pragmatics*, Oxford University Press, 567-582.